

## PATENT COOPERATION TREATY

PCT

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**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P18611WO1</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416																									
International application No. <b>PCT/SE 2003/001557</b>	International filing date ( <i>day/month/year</i> ) <b>06-10-2003</b>	Priority date ( <i>day/month/year</i> ) -																								
International Patent Classification (IPC) or national classification and IPC See Supplemental Box																										
Applicant <b>Telefonaktiebolaget LM Ericsson (publ)</b>																										
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>3</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>			<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand <b>08-04-2005</b>	Date of completion of this report <b>13-12-2004</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer <b>Behroz Moradi/MN</b> Telephone No. +46 8 782 25 00

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

PCT/SE 2003/001557

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Cover sheet**

**INTERNATIONAL PATENT CLASSIFICATION (IPC) :**

**H04Q 7/38 (2006.01)**

**H04Q 7/22 (2006.01)**

**H04L 29/06 (2006.01)**

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/SE 2003/001557

## Box No. I Basis of the report

1. With regard to the language, this report is based on:

- the international application in the language in which it was filed  
 a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:  
 international search (Rules 12.3(a) and 23.1(b))  
 publication of the international application (Rule 12.4(a))  
 international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- the international application as originally filed/furnished  
 the description:  
 pages 1 - 10 as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the claims:  
 pages \_\_\_\_\_ as originally filed/furnished  
 pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 pages\* 11 - 13 received by this Authority on 2005 - 07 - 19  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the drawings:  
 pages 1 - 4 as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

- the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (*specify*): \_\_\_\_\_  
 any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001557

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1 - 8</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1 - 8</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1 - 8</u>	YES
	Claims	_____	NO

## 2. Citations and explanations (Rule 70.7)

## Cited documents in the International Search Report:

- D1: US2005015583 A1  
 D2: EP1309213 A  
 D3: WO9916277 A  
 D4: EP1119132 A2  
 D5: US200307696 A1 published 2003-11-03.  
 D6: EP1359782 A1 Published 2003-11-05.

D1 and D2 are regarded as being the closest prior arts to the subject-matter of claims 1, 6 and 8 and shows, neither one of documents D1 or D2 discloses the usage of such an uplink channel in an MBMS-based system.

The subject-matter of claims 1, 6 and 8 therefore differs from this known method in those Documents. The subject-matter of claim 1 and 6 is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention may therefore be regarded as a subscriber is charged only for the information that it actually has received and how to achieve a content- or session-based charging.

The solution to this problem proposed in claims 2-5 and 7 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:  
 Claims 2-5 and 7 are dependent on claim 1, 6 and 8 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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**CLAIMS**

1. A method in a network unit of a telecommunication system providing network services to one or more user equipments 5 and capable to transmit data messages of a multimedia broadcast/multicast service (MBMS),

characterised by

registering user equipments for a session of an multimedia broadcast/multicast service by help of received 10 participation requests from said user equipments on a predetermined MBMS-uplink channel,

providing charging information when receiving on said predetermined MBMS-uplink channel an acknowledgement message from a user equipment indicating the reception of 15 one or more MBMS-messages,

transmitting one or more decoding keys for decoding one or more MBMS-messages after having charged the user equipment for previously received MBMS-messages.

2. The method according to claim 1 whereby the user 20 equipment is already charged in response to said participation request.

3. The method according to one of the preceding claims whereby the charging information also considers the lapsed time during which the user equipment has participated in 25 said MBMS-session.

4. The method according to one of the preceding claims whereby the charging information also considers the user subscription profile.

5. The method according to one of the preceding claims 30 further comprising the steps of

maintaining a register for storing segment numbers of at least the received acknowledgement messages of each user equipment that participates in an MBMS-session,

5 determining by help of said segment numbers a missing acknowledgement message,

retransmitting the decoding key for decoding the latest transmitted MBMS-message in case of a detected missing acknowledgement message,

10 omitting the charging procedure when receiving from a user equipment an acknowledgement message comprising an already received sequence number.

6. A method in a user equipment of a telecommunication system capable to receive data messages of a multimedia broadcast/multicast service (MBMS),

15 characterised by

transmitting on a predetermined MBMS-uplink channel a participation request in order to participate in a session of a desired multimedia broadcast/multicast service,

20 decoding one or more of the received MBMS-messages by help of a stored decoding key that is provided by the network,

transmitting, if required by the network operator, on said predetermined MBMS-uplink channel acknowledgement messages for one or more received MBMS-messages.

7. The method according to claim 6 further comprising the  
25 steps of

storing received MBMS-messages of said session that cannot be decoded,

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transmitting an acknowledgement message for said MBMS-messages after having received the necessary decoding key for decoding said MBMS-messages.

8. A user equipment for communicating in a telecommunication system and capable to receive data messages of a multimedia broadcast/multicast service (MBMS),

characterised in

means for storing received decoding keys,

means for storing received MBMS-messages,

means for processing and decoding received MBMS-messages by help of a stored decoding key, and

means for transmitting acknowledgement messages on a predetermined MBMS-uplink channel for one or more received MBMS-messages.